CURRENT STATUS OF ALL CLAIMS

Claims 1-27 are canceled.

28. (Original) A method of increasing overall treatment efficacy for a given population of patients having a pathology, comprising:

(a) analyzing compounds known or suspected of modulating the activity of at least one target molecule corresponding to said pathology for efficacy correlated with the presence of a SNP associated with said target molecule(s); and

(b) selecting, for treatment of said patients, a combination of at least two of said compounds that exhibit the highest overall mean response of all dosing options in said population of patients.

29. (Original) The method of claim 28 wherein said combination is effective for at least 25% of said patients.

30. (Original) The method of claim 28 wherein said combination is effective for at least 50% of said patients.

31. (Original) The method of claim 28 wherein said combination is effective for at least 75% of said patients.

32. (Original) The method of claim 28 wherein said combination is effective for at least 90% of said patients.

33. (Original) A method of maximizing overall population efficacy of treatment for a particular pathology, comprising:

(a) determining the efficacies of a plurality of compounds known or suspected of treating said pathology;

(b) determining the toxicity of said plurality of compounds; and

(c) selecting from said plurality of compounds a combination of compounds that is minimally toxic and is effective for at least 1% of the total patient population having said pathology.

34. (Original) A method of formulating a pharmaceutical composition for treating a particular pathology in a population of patients having said pathology, comprising:

(a) measuring a correlation of genetic variation of a target molecule in said population with patient response to at least one compound known or suspected to treat said pathology; and

(b) selecting at least two compounds that provide the greatest percentage of efficacy in said patient population, wherein said percentage is at least 1% of the total patient population having said pathology.

35. (Original) The method of claim 34 wherein said composition comprises at least three compounds.

36. (Original) The method of claim 34 wherein said composition exhibits minimal toxicity.

37. (Original) The method of claim 34 wherein said composition exhibits no toxicity.

38. (Original) A genotypically-facilitated method of treating one or more patients having a pathology, comprising:

(a) analyzing a therapeutic target molecule in a population of patients having said pathology to detect SNPs associated therewith;

(b) selecting a plurality of compounds having therapeutic efficacies correlated with the presence of at least one SNP associated with said target molecule; and

(c) administering said plurality of compounds to a patient in said population;

wherein said combination is effective for at least 1% of the total patient population having said pathology.

39. (Original) The method of claim 38 wherein said plurality of compounds is administered to said patient simultaneously or proximately to one another.

40. (Original) A method of formulating a therapeutic composition to treat a pathology, comprising:

(a) analyzing a target molecule in a patient population to detect SNPs associated therewith; and

(b) selecting a plurality of compounds having therapeutic efficacies correlated with the presence of at least one SNP associated with the target molecule, wherein said plurality is effective for at least 1% of the total patient population having said pathology.

41. (Original) A method of selecting an optimized therapeutic composition to treat a pathology, comprising selecting a combination of at least two compounds that exhibits the highest overall mean response of all dosing options and exhibits the lowest variation in response across different population groups, wherein said combination is effective for at least 1% of the total patient population having said pathology.

42. (Original) The method of claim 41 wherein a total dosage of said composition does not exceed a threshold for toxicity.

43. (Original) A method of preparing an optimized pharmaceutical composition, comprising identifying a combination of at least two compounds that exhibit maximal population efficacy across all known SNPs associated with a particular target molecule correlated with a pathology, wherein said combination exhibits minimal toxicity.

44. (Original) The method of claim 43 wherein said combination is effective for at least 25% of patients having said pathology.

45. (Original) The method of claim 43 wherein said combination is effective for at least 50% of patients having said pathology.

46. (Original) The method of claim 43 wherein said combination is effective for at least 75% of patients having said pathology.

47. (Original) The method of claim 43 wherein said combination is effective for at least 90% of patients having said pathology.

48. (Original) A method of optimizing therapeutic treatment of a pathology, comprising selecting a combination of compounds that minimize overlap of drug efficacy in patients having said pathology, wherein said combination of compounds exhibits minimal toxicity.

49. (Original) The method of claim 48 wherein said combination is effective for at least 25% of patients having said pathology.

50. (Original) The method of claim 48 wherein said combination is effective for at least 50% of patients having said pathology.

51. (Original) The method of claim 48 wherein said combination is effective for at least 75% of patients having said pathology.

52. (Original) The method of claim 48 wherein said combination is effective for at least 90% of patients having said pathology.

53. (Original) A method of treating a sub-population of patients having a particular pathology, comprising:

(a) identifying a sub-population of patients having at least one known SNP from all patients exhibiting said pathology; and

(b) administering to said sub-population a composition comprising at least one therapeutic compound having an efficacy correlated with the presence of said SNP.

Claim 54 is canceled.

55. (Original) A method of preparing a combination of compounds for treating one or more patients having a pathology, wherein said combination of compounds has increased efficacy and/or reduced toxicity, relative to any individual compound, in a greater portion of a population of patients having said pathology, comprising:

(a) correlating the efficacy and/or toxicity of a first compound with the presence of one or more SNPs;

(b) correlating the efficacy and/or toxicity of a second compound with the presence of one or more SNPs; and

(c) calculating the efficacy and/or toxicity of a combination of said first compound and said second compound on said population of patients;

wherein said combination is effective for at least 1% of the total patient population having said pathology.

56. (Original) The method of claim 55, further comprising the steps of:

(d) correlating the efficacy and/or toxicity of a third compound with the presence of one or more SNPs; and

(e) calculating the efficacy and/or toxicity of a combination of said first compound, said second compound and said third compound on said population of patients.

Claims 57-59 are canceled.